Aromatic Compounds Suppress Potato Sprouts

Certain aromatic acids and jasmonates—compounds that impart the characteristic aroma of jasmine flowers—have been found to delay sprouting of stored potatoes if applied at the time of harvest. The aromatic acids and jasmonates could be especially useful for the premium organic potato market, which does not allow use of synthetic chemicals. The most widely applied sprout inhibitor registered for U.S. postharvest application to potatoes is synthetic.

Jasmonates are already used in the fragrance industry and as flavorings in foods. They have also been found to slightly improve the color of potatoes processed into chips and fries. Best of all, it takes just minute amounts to delay sprouting. The two treatments—jasmonates and aromatic acids—are patented and ready for commercial testing once a business partner is found to sign a patent license or cooperative agreement. *Edward C. Lulai, USDA-ARS Sugarbeet and Potato Research Laboratory, Fargo, North Dakota; phone (701) 239-1352, e-mail lulaie@fargo.ars.usda.gov.*

Long-Term Weather Predictions: Are They Helpful?

How much difference would it really make to farmers if they knew the upcoming growing season would be wet or dry? Meteorologists and hydrologists are now looking at seasonal climate forecasts to see what they can learn. They want to evaluate the reliability and usefulness of the forecasts and correlate them with the success of various crops. They wonder if farmers in affected areas would have been able to take actions to improve their bottom lines had they received an early warning of a likely wet or dry season.

The researchers also wonder if certain regions might have more predictable weather patterns than others, making extended weather forecasts more useful to farmers in those locales than they would otherwise be. *Jurgen D. Garbrecht, USDA-ARS Great Plains Agroclimate and Natural Resources Research Unit, El Reno, Oklahoma; phone (405) 262-5291, e-mail garbrech@grl.ars.usda.gov.*

Red Beans Getting Better and Better

Plant geneticists and breeders have developed a unique pool of new red bean lines. These beans contain genes for improved erectness, disease resistance, seed appearance, and canning quality. The features of the new lines are so good that these beans are likely to become the sole source of material for breeding new red bean types. They are resistant to bean common mosaic virus and have improved yield. One of them also has resistance to several strains of bean rust.

Smaller than kidney beans, red beans have a unique oval shape and are typically used in chili products and mixes. The new germplasm will be deposited in the National Plant Germplasm System and made available to researchers and breeders to use for developing and commercializing other red bean varieties. *George L. Hosfield, USDA-ARS Sugarbeet and Bean Research Unit, East Lansing, Michigan; phone (517) 355-0110, e-mail hosfiel2@pilot-msu.edu.*

Virtual Laboratory Furthers Food Safety

Predictive microbiology is a growing field that estimates the behavior of microorganisms in response to environmental conditions. These include the food production and processing operations that occur from farm to table. Now, mathematical models 15 years in the making are being used to estimate the behavior of foodborne bacteria that can cause illness or disease in consumers. They have been collected on one web site that functions as a virtual laboratory to help facilitate cooperation among researchers studying one key food safety issue: how pathogenic bacteria in food behave under varying environmental conditions. The site is called the Center of Excellence in Microbial Modeling and Informatics, or CEMMI, for short. It can be accessed at http://www.arserrc.gov/cemmi.

Researchers hope that the center will improve the way predictive models are developed and applied. It should help define existing gaps in research data and enhance uniformity in experimental designs. It will network laboratories, researchers, model designers, and industry, thus facilitating the solving of contemporary food safety and quality problems. *Mark L. Tamplin, USDA-ARS Microbial Food Safety Research Unit, Wyndmoor, Pennsylvania; phone (215) 836-3794, e-mail mtamplin@arserrc.gov.*

Cool Peppers Have Flavor—Not Heat

New peppers have been bred with the jalapeño taste just right for tomato-based salsas, but they don't have the heat-producing compounds known as capsaicinoids. To achieve just the right pungency, food processors add precise amounts of extracted capsaicin during manufacture. To appeal to those consumers who want milder ethnic flavors, these new peppers impart the taste of jalapeño—without the "fire"—to products such as salsa.

Now scientists are looking at how to maximize yields of these nonpungent jalapeños. Among other factors, they've been looking at planting dates and plant density. In two growing seasons, they found that more fruit was produced and higher yields obtained when plants were transplanted before June and in pairs. *Vincent M. Russo, USDA-ARS South Central Agricultural Research Laboratory, Lane, Oklahoma; phone (580) 889-7395, e-mail vrusso-usda@lane-ag.org.*